Marlon Calvo

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Work Experience

Aug 2020 - Current **University of Central Florida** Orlando, FL
Undergraduate Learning Assistant, Computer Science

- Host review lectures and office hours on algorithm and data structures for 400 students.

Feb 2019 - Current **Siemens Energy** Orlando, FL
Software Engineering Intern

- Improved performance by 2-5x, via overhauled multiprocessing algorithms and enhanced system design, for numerical analysis application (10-15k computations per month).
- Developed graph algorithms for analyzing large blade topologies, enabling automation of complex fluid simulations.
- Innovated frontend build system for Matlab's C transcompiler, saving up to 80% developer time lost due to compilation and testing issues.
- Led design, implementation, and a portion of project management to rebuild legacy application for a large, company-wide, external customer project.

Projects

Aug 2020 - Current **OpenJML String Support** openjml.org

- Implementing support for string program verification, a necessary feature for proving algorithms.
- OpenJML is a large, open-source, program verification tool used for cybersecurity at Amazon.

Mar 2020 - Apr 2020 **Parking Manager** github.com/cop4331-spr2020-team/contact-manager

- Built university parking administration system with administrative and analytics portals, alongside iOS client app.
- Led backend/frontend development and was project manager for a team of 6.
- Engineered backend (NodeJS, MongoDB, Redis), backend API, and frontend (React).

Mar 2020 - Apr 2020 **Quantifiable Queue** github.com/marloncalvo/quantifiable-queue

- Innovated a high-performance, thread-safe queue algorithm on a newly proposed correctness condition.
- Outperforms JDK implementation (MS-queue) by >1 order(s) of magnitude in OP/s.

Education

Aug 2018 - May 2021 **University of Central Florida** Orlando, FL
Bachelor of Science (BS), Computer Science

- **GPA**: 3.86 / 4.00
- **Coursework**: Computer Vision, Deep Learning for Computer Vision, Parallel Computing Architecture and Algorithms, Computer Graphics, Competitive Programming Contests

Skills

- **Languages**: Java, Python, C/C++, Go, JavaScript, Matlab
- **Technologies**: NodeJS, MongoDB, Redis, React, SQL, JavaFX, Qt, Keras, Unix